RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Borehole 41-01-07

Log Event A

Borehole Information

Farm : SX	**Tank :** SX-101	**Site Number :** 299-W23-60
N-Coord : 35,520	**W-Coord :** 75,717	**TOC Elevation :** 668.00
Water Level, ft : 95.50	**Date Drilled :** 9/21/1954	

Casing Record

Type : Steel-welded	**Thickness :** 0.313	**ID, in. :** 8
Top Depth, ft. : 0	**Bottom Depth, ft. :** 101	

Equipment Information

Logging System : 1	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 03/1995	**Calibration Reference :** GJPO-HAN-1	

Logging Information

Log Run Number : 1	**Log Run Date :** 4/27/1995	**Logging Engineer:** Jerry Burnham
Start Depth, ft.: 0.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 60.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 2	**Log Run Date :** 4/28/1995	**Logging Engineer:** Jerry Burnham
Start Depth, ft.: 99.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 59.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

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Analysis Information

Analyst : P.D. Henwood

Data Processing Reference : Data Analysis Manual Ver. 1 Analysis Date : 7/18/1995

Analysis Notes :

Borehole 41-01-07 was logged in two log runs: run 1 from 0 to 60 ft and run 2 from 99 to 59 ft. The depth overlap from 59 to 60 ft did not show optimum repeatability, particularly in the U-238 spectra. However, there is a clear lithology change at this depth that could have contributed to the lack of repeatability. This lithology change is evidenced by this log as well as by the logs of other SX-101 boreholes. The actual concentration of the U-238 should be considered suspect below 60 ft, although the general trend of the data is consistent with the other naturally occurring radionuclides and the total gamma log.

The driller's log indicated caving and pieces of wood from 50 to 55 ft, which is evidence of disturbed soils at this depth. It also indicates gravels from 60 to 68 ft and silt beginning at 68 ft. The driller's log indicates the borehole casing was perforated from 10 to 99 ft, although there is no mention of a grout plug at the bottom of the borehole or outside the casing.

Cs-137 was the only man-made radionuclide detected in this borehole. The maximum concentration of 76 pCi/g occurred at 4 ft in depth. Concentrations of about 1 pCi/g or less were detected throughout the borehole. One depth interval from 47 to 68 ft contained slightly elevated concentrations relative to the rest of the borehole. There is no apparent reason for these slightly elevated activities, such as obvious lithology changes. The area at about 62 ft just above the contamination at 64 ft indicates a lithology change of low gamma activity, which could be indicative of large gravels (consistent with the driller's log). The K-40, Th-232, and total gamma logs indicated increases in concentration at about 68 ft which is probably a fine-grained zone.

Log Plot Notes:

Three log data plots are provided: a Cs-137 plot, a natural gamma log plot, and a combination plot. The Cs-137 log shows the concentrations of Cs-137 versus depth. The MDA value is shown on these graphs as open circles. Error bars representing the 95 percent confidence interval are plotted with the concentration data points.

Log plots were corrected for casing thickness of 0.33 in. No fluid corrections were made.

The natural gamma logs are shown in a separate plot to allow correlation of these data with the lithology. These data are also plotted with the MDA values and the error bars. On the Th-232 plot, the MDA value is shown as zero at some depth locations. This zero value was a result of an anomaly in the commercial spectrum analysis software which has been corrected by the vendor. Because the MDA calucation at these few points is not significant relative to the intended use of the thorium plot, the data were not reprocessed and corrected. Therefore, these MDA data points on the plot should be ignored.

A combination plot of individual radionuclides is provided and includes the total gamma log calculated from the spectral data as well as the Tank Farms gross gamma log obtained from the gross gamma logging system operated by WHC.